

## VENA® FLEXIP FULL - X

Ref: DO 03.10 FT 366 Rev. 00 Date: 01/12/2023

### APPLICATIONS



This hose is specially recommended for the transport of liquid and semi-liquid fluids in the food, cosmetic, chemical, and pharma industries. Engineered to ensure dissipation of electrostatic charges along the inner layer and through the hose walls. It has good resistance, especially to fatty and oily foods and glycols, as well as alcoholic beverages.

Inner layer in Vena® Flexip-FULL-X is made from a self-developed fluoroelastomer doped with PTFE particles, that gives resistance to both acidic and alkali mediums as the ones used for CIP cleaning processes.

### PROPERTIES

- Odorless, tasteless, and completely non-toxic
- Black and smooth outer appearance
- High abrasion resistance
- Can be equipped with 316L stainless steel fittings on each end with roughness value of less than 0.8  $\mu\text{m}$  (smaller roughness is possible on request)
- Temperature range:
  - o Product: From  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $+175^{\circ}\text{C}$  (347 F), it may reach up to  $+200^{\circ}\text{C}$  (372° F) during short periods of time
  - o Operational: from  $-20^{\circ}\text{C}$  ( $-4^{\circ}\text{F}$ ) to  $+65^{\circ}\text{C}$  (149 F) in accordance with EN 12115:2011
- Standard manufacturing length is 6 meters long (19.69 ft.)
- Compatible with CIP and SIP cleaning processes
- Designed to ensure dissipation of electrostatic charges not only on surfaces (inner and outer) ( $R < 10^6 \Omega$ ) but also through the hose wall ( $R < 10^9 \Omega$ )

### CONSTRUCTION

It is specially recommended when a small bending radius is required. This reference is manufactured with fluorinated elastomer doped with PTFE particles, with three plies of polyester reinforcement and stainless-steel wire spring. Everything encased inside the hose.

Shapes such as elbows or curvatures can also be manufactured to adapt them to any installation.



## VENA® FLEXIP FULL - X

Ref: DO 03.10 FT 366 Rev. 00 Date: 01/12/2023

### REGULATIONS

Inner layer in Vena® Flexip FULL - X in accordance with:

- US FDA Standard 21 CFR 177.2600
- USP Class VI <88>, in vivo test
- ResAp 2004 (5), according to Reg 1935/2004/EEC and Reg10/2011/EEC with simulants A (10% ethanol) and simulant D2 (olive oil)

Outer silicone layer in Vena® Flexip FULL - X in accordance with:

- US FDA Standard 21 CFR 177.2600

This hose is in accordance with EU Directive 2002/95/ECC for Restriction of the use of Hazardous Substances (RoHS)

### TECHNICAL SPECIFICATIONS

Inner Diameter		Wall Thickness		Working pressure ISO 1402		Bursting pressure ISO 1402		Bending radius ISO 10619-1	
mm	inch	+1/-0.5 mm	+0.04/ - 0.02 inch	bar at 23°C	psi at 73,4°F	bar at 23°C	psi at 73,4°F	mm	inch
6	1/4	5,5	0,22	32,7	474,4	98,1	1423,2	29	1,14
8	0,3	5,5	0,22	31,2	452,0	93,5	1356,0	31	1,22
10	0,4	5,5	0,22	29,7	430,3	89,0	1290,8	34	1,34
13	1/2	5,5	0,22	27,5	398,9	28,5	1196,7	39	1,54
16	0,6	5,5	0,22	25,4	369,0	76,3	1107,1	45	1,77
19	3/4	5,5	0,22	23,5	340,6	70,5	1021,8	54	2,13
22	0,9	5,5	0,22	21,6	313,7	64,9	941,0	60	2,36
25	1	5,5	0,22	19,9	288,2	59,6	864,5	68	2,68
32	1 1/4 <sup>1/4</sup>	5,5	0,22	16,2	234,5	48,5	703,4	94	3,70
38	1 1/2	5,5	0,22	13,4	194,8	40,3	584,4	112	4,41
51	2	5,5	0,22	8,9	129,1	26,7	387,2	144	5,67
63	2 1/2	5,5	0,22	6,4	92,9	19,2	278,8	181	7,13
76	3	5,5	0,22	5,5	80,4	16,6	241,1	232	9,13

**VENA® FLEXIP FULL - X**

Ref: DO 03.10 FT 366 Rev. 00 Date: 01/12/2023

**CLEANING CONDITIONS**

	Vena® Flexip FULL-X
HOT WATER	Up to 95°C
STEAM	Up to 130°C-30'
CAUSTIC SODA	Up to 1% - 80°C
NITRIC ACID	Up to 0.5% - 80°C
PERACETIC ACID	Up to 3% - 80°C

**ADDITIONAL INFORMATION**

The following chart is purely informative and does not imply any responsibility for Venair. Chemical compatibility will depend on the customer conditions. For further information you can contact our specialist.

	MEDIUM	COMPATIBILITY
ACIDS	Acetic acid 5%	A
	Hydrochloric acid 32%	A
	Lactic acid	A
	Nitric acid 10%	A
	Phosphoric acid 20%	A
	Sulfuric Acid 20%	A
BASES	Caustic soda	C
	Potassium hydroxide	C
SALTS	Calcium salts	A
	Sodium chloride 10%	A
SOLVENTS	Acetone	D
	Butanol	B
	Heptane	A
	Isopropyl alcohol	B
OTHERS	Ethylene glycol	A
	Glycerine-glycol	A
	Propylene-glycol	A
	Sodium laureth sulfate 70%	A
CLEANING MEDIUMS	Urea 40%	A
	Acid CIP 3%	A
	Alkaline CIP 3%	A
	Chlorinated alkaline CIP 3%	A
	Hot water	A

	MEDIUM	COMPATIBILITY
FOOD PRODUCTS	Beer	A
	Beet sugar liquors	A
	Butter	A
	Chocolate	A
	Citric acid	A
	Coca-cola	A
	Cocoonut oil	A
	Coffee	A
	Corn oil	A
	Lard	A
	Milk	A
	Olive oil	A
	Vinegar	A
	Whisky	A

Where A is excellent, B is good, C is fair, and D is not recommended.

**VENA® FLEXIP FULL - X**

Ref: DO 03.10 FT 366 Rev. 00 Date: 01/12/2023

**TECHNICAL INFORMATION FOR EXPLOSIVE ATMOSPHERES**

ELECTRICAL PROPERTIES

	REFERENCE STANDARDS	CLASSIFICATION OF HOSE GRADES
ATEX standard	Directive 2014/34/EU	Metal-hose assembly or non-conductive hose assemblies with or without metal fittings are not considered a product under the scope of Directive 2014/34/EU because they have no autonomous function and are not essential to safe functioning of ATEX equipment or protective system. The CE and ATEX logos are not applicable.
Electrical features information	ISO 8031:2020 / EN12115 R<100Ω. Metal helix connected electrically to both end fittings.	SD electrically bonded
	ISO 8031:2020 & IEC/TS 60079-32-1:2013 Conductive (R<10 <sup>6</sup> Ω per length (between end fittings).	Ω-CL
	ISO 8031:2020 & IEC/TS 60079-32-1:2013 Electrical resistance R<10 <sup>9</sup> Ω through the hose wall.	T
Usage information	IEC/TS 60079-32-1:2013	Zone 1-21 (Class I & II D1) Zone 2-22 (Class & II D2)  This hose can be classified as "acceptable" for flammable high conductive liquids (>10.000 pS/m), and as "acceptable" for medium and low conductive liquids (<10.000 pS/m).

**VENA® FLEXIP FULL - X**

Ref: DO 03.10 FT 366 Rev. 00 Date: 01/12/2023

## USE PRECAUTIONS

- For liquids with low MIE (<1mJ) controlling the explosive atmosphere it is recommended during cleaning, charge, discharge, or any interruption on the liquid flow by means of nitrogen blanketing or similar.
- This hose cannot be used for transfer of explosive materials.
- Proper earthing is required (earth the hose metal fittings or directly the wire of both ends of the hose)
- The end-to-end resistance of the hose should be checked regularly to ensure that the bonding remains intact. It is recommendable to perform this check before each use.
- It is not allowed a prolonged friction in the surface of the hose.
- The hose must be cleaned from flammable products in the outer surface.
- The hose should be inspected over the entire length for signs of hardening, abrasion, cuts, kinking, crushing, cracks, scratches, breaks or tears. It is recommendable to perform this check before each use. These faults require the affected hose to be replaced.

Not following the above-mentioned instructions will lead to the loss of the ATEX acceptability  
▲ in compliance with ISO 8031:2020 & IEC/TS 60079-32-1:2013